

REMARKS

Claims 18 and 20-81 remain in this application. Claim 19 is canceled. New dependent claims 80 and 81 are added.

The Office action objects to the disclosure for failing to provide antecedent basis/support for the tube being transparent and/or translucent as is claimed in claims 22, 38, 39, and 74. Applicant has appropriately amended the narrative portion of the specification to describe this feature, which has been present in the claims of the present application as initially filed. Reconsideration and withdrawal of such objection are therefore respectfully requested.

The Office action objects to the drawings under 37 CFR 1.83(a) as failing to show every feature of the invention specified in the claims, namely the stirring bar of claims 27, 44, and 63, the pressure regulator of claim 59, and the pH indicator of claims 21, 41 and 60.

Applicant has amended Figure 1 to add such elements. As the stirring bar, pressure regulator, and pH indicator are illustrated in a purely schematic manner, the addition of such elements adds no new matter to the application. Reconsideration and withdrawal of such objection are therefore respectfully requested.

The Office action provisionally rejects Claims 18-29 and 35-44 on the ground of nonstatutory obviousness-type double

patenting as being unpatentable over claims 1, 2, 6-10, 12 and 13 of copending Application No. 11/508,286. The Office action separately provisionally rejects claims 54-79 on the same grounds over claims 1, 2, 6-13, 16-21, and 26-36 of the same copending application.

Applicant includes herewith a duly executed Terminal Disclaimer. Reconsideration and withdrawal of this rejection are therefore respectfully requested.

Claims 19 is canceled and claim 29 is amended, overcoming the objections of such claims as to form. Reconsideration and withdrawal of both objections are therefore respectfully requested.

Claims 20, 26, 29, 30-34, and 46-53 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite. Applicant has amended each of the claims as necessary to eliminate the bases for this rejection, the reconsideration and withdrawal of which are therefore respectfully requested.

The Office action rejects claims 18, 19, 23, 25, 26, 28, 29, 35, 36, 40, 42, 43, 45, 54-56, 61, 64, 65-67, 69, 70-72, 77 and 78 under 35 U.S.C. 102(b) as being anticipated by Okazaki et al. (JP 03-030665). Reconsideration and withdrawal of this rejection are respectfully requested for the following reasons.

Turning to the rejections based on prior art, Applicant and the undersigned are most thankful for the personal interview of January 20, 2011. It is believed that the interview was

highly productive for all participants, and the informative discussion during the interview underlies the present amendment and analysis.

As discussed during the interview, the Okazaki reference describes a device that has a number of elements in common with the device claimed, namely a length of tubing, an arrangement of clamps used to section off various lengths of the tubing, and a growing culture contained within such lengths.

A feature of the present device, however, is an "automated control system to monitor optical density of growing culture and to operate a feedback control system (13), allowing controlled movement of the tubing (1) on the basis of culture density" described on page 4, lines 22-25. This is addressed further on page 6, lines 19-20, with reference to the culture being allowed to grow to the desired density, as well as page 8, lines 22-25, where it is noted that "[t]he frequency of dilution can be determined either by timing (chemostat function) or by feedback regulation whereby the density of the culture in the growth chamber is measured by a turbidimeter (FIG. 1--mark 6) and the dilution cycle occurs when the turbidity reaches a threshold value (turbidostat function)."

In stark contrast, the Okazaki reference offers nothing whatsoever in terms of this feature, and states rather plainly that a specified and repeated timing is the only basis upon which the clamps of such device are ever relocated.

Accordingly, Applicant has amended independent claims 18, 54, and 65 among the rejected claims to further recite a control system that monitors culture density in the tubing and controls the action of the clamps and tubing based on such measurement.

Applicant believes that such amendment should overcome the rejection of such independent claims and all claims that depend therefrom.

Claim 35 is the remaining independent claim among those rejected. As also discussed during the personal interview, this claim recites features that are absent from the Okazaki reference. However, in the interest of clarifying such claim and highlighting the differences between the features thereof and the teachings of the applied reference, Applicant has amended claim 35.

Claim 35 recites, among other features, a system of clamps that clamp the tubing at four separate points, thereby creating three distinct regions. For purposes of clarity, these regions are now recited as a fresh medium chamber, a growth chamber, and a sampling chamber, corresponding directly to the description of such elements in the narrative portion of the specification and the drawings figures. Claim 35 also requires that the growth chamber has a volume that is greater than that of the fresh medium chamber and the sampling chamber.

The Okazaki reference, while perhaps disclosing four clamps, clearly fails to offer any indication that such clamps at any time create are all closed to create the three recited chambers. Moreover, even if such reference were to be construed as defining such chambers, they fail to meet the relative volume feature. Finally, there is no indication in the Okazaki reference that the clamps of such reference open and close in the very specific manner recited in the final paragraph of such claim.

In light of these features and the corresponding amendment of such claim, which is believed by Applicant to clarify the recitations thereof without narrowing the claim's scope, Applicant believes that independent claim 35 and all claims that depend therefrom are not anticipated by the Okazaki reference, and reconsideration and withdrawal of such rejection are respectfully requested.

The Office action rejects claims 18, 19, 21-23, 25, 26, 28, 29, 35, 37, 38, 39, 40, 54, 55, 57 and 58 under 35 U.S.C. 102(b) as being anticipated by Bieri (CH552063). Reconsideration and withdrawal of this rejection are respectfully requested for the following reasons.

Of the rejected claims, claims 18, 35, and 54 are independent. Of the independent claims, claims 18 and 54 have been amended to further recite the control system and interaction between such system and the system of clamps and tubing, as

discussed in detail in the immediately preceding rejection based on Okazaki. The Bieri reference no more disclosed such a feedback system than does Okazaki, and reconsideration and withdrawal of the rejection of these claims and the claims that depend therefrom are therefore respectfully requested.

Claim 35 and its amendment are also discussed above in the context of the rejection based on Okazaki. Applicant respectfully suggests that the Bieri reference even more clearly fails to disclose the features of claim 35, as there appears to be no interpretation of Bieri that provides four clamping points that define three recited chambers. It appears that the Bieri device utilizes three clamps that are moved manually from one position to another, and therefore is incapable of defining the three recited chambers.

Beyond this, the Bieri reference offers no indication of a manner of interaction between the opening and closing of the clamps and creation of the various chambers as is recited in the final paragraph of the claim.

For these reasons, Applicant respectfully suggests that the present anticipation rejection cannot be maintained, and reconsideration and withdrawal of such rejection are therefore respectfully requested.

The Office action rejects the following sets of claims under 35 U.S.C. 103(a) as being unpatentable over the identified references: claim 20 over Okazaki et al. (JP 03-030665) in view

of Taiariol et al. (US 5,017,490); claims 24, 41, 60 and 76 over Okazaki et al. (JP 03-030665) or Bieri (CH552063) in view Doi et al. (US 2004/0029265); claims 59 and 75 over Okazaki et al. (JP 03-030665) or Bieri (CH552063) in view of Redikultsev (US 4,686,189); claims 22, 38, 39 and 58 over Okazaki et al. (JP 03-030665) in view Bieri (CH552063); claims 27, 44, 63 and 79 over Okazaki et al. (JP 03-030665) in view of Yunker et al. (US 4,703,010); claim 46 over Okazaki et al. (JP 03-030665) or Bieri (CH552063) in view of Watanabe et al. (US 5,071,760); claims 68 and 73 over Okazaki et al. (JP 03-030665); and claim 74 over Okazaki et al. (JP 03-030665) in view of Bieri (CH552063) and Alarcon et al. (US 6,537,772). Reconsideration and withdrawal of this rejection are respectfully requested for the following reasons.

Each of the claims listed above is dependent, and all of the independent claims from which they depend have been discussed above in connection with the anticipation rejections. As noted above, each of the independent device claims except for claim 35 now recites the control system that operates to control the action of the clamps and tubing based on the detected culture density within the tubing. Claim 35, amended for clarity, recites four claims and three chambers created thereby, as well as a detailed description of the prescribed operation of such clamps. These features are no more suggested by the secondary references than they are explicitly disclosed by either the

Okazaki or Bieri references. Accordingly, any of the various combinations of references similarly fails to render obvious the dependent claims, and reconsideration and withdrawal of such obviousness rejections are therefore respectfully requested.

Please charge the fee of \$26.00 for the one extra dependent claims added herewith to our credit card set forth in the attached Credit Card Payment Form.

In view of the present amendment and the foregoing remarks, it is believed that the present application has been placed in condition for allowance. Reconsideration and allowance are respectfully requested.



If necessary, the Commissioner is hereby authorized in this, concurrent, and future submissions, to charge any deficiency or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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AMENDMENTS TO THE DRAWINGS:

The attached sheet of drawings includes changes to Figure 1. This sheet, which includes only Figure 1, replaces the original sheet including only Figure 1. In Figure 1, only the words 'STIRRING BAR', 'PRESSURE REGULATOR', and 'pH INDICATOR', together with associated lead lines, have been added to the drawing.

Attachment: Replacement Sheet